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IN THE CLAIMS

Please amend the claims as follows.

1. (original) A method for determining an optimal sample dimension suitable for descreening and rescaling the raster data of a halftone image, said halftone image converted from an original contone image using a periodic screen, the method comprising the steps of:

(a) obtaining parameters of said periodic screen, said parameters comprising:
a line density,
a cell dimension, and
a screen angle; and

(b) modifying said cell dimension in response to said line density and said screen angle, thereby calculating said optimal sample dimension suitable for descreening said halftone image.

2. (original) The method of claim 1 further comprising storing said optimal sample dimension.

3. (original) The method of claim 2 further comprising descreening and rescaling said raster data using said optimal sample dimension.

4. (original) The method of claim 1 wherein the step of modifying said cell dimension comprises:

(a) performing a first calculation comprising multiplying said cell dimension by a first coefficient;

(b) performing a second calculation comprising multiplying the result of said first calculation by a second coefficient;

(c) performing a third calculation comprising raising the result of said second calculation to the second power;

(d) performing a fourth calculation comprising multiplying the result of said second calculation by a third coefficient; and

(e) rounding the result of said fourth calculation to the nearest integer.

5. (currently amended) The method of claim ~~2~~ 4 wherein each of said first coefficient, said second coefficient, and said third coefficient equals 1.

6. (currently amended) The method of claim ~~2~~ 4 wherein said first coefficient and said second coefficient equal 1, and said third coefficient equals 2.

7. (currently amended) The method of claim ~~2~~ 4 wherein said first coefficient equals a square root of 2, and each of said second coefficient and said third coefficient equals 1.

8. (currently amended) The method of claim ~~2~~ 4 wherein said first coefficient equals 1 and said second coefficient comprises the smallest integer selected such that the result of said third calculation exceeds a predetermined number of pixels.

9. (original) The method of claim 8 wherein the predetermined number of pixels is at least 100.

10. (original) The method of claim 9 wherein the predetermined number of pixels equals 128.

11. (original) The method of claim 8 wherein said third coefficient equals 1.

12. (original) The method of claim 8 wherein said third coefficient equals 2.

13. (currently amended) The method of claim ~~2~~ 4 wherein said first coefficient equals a square root of 2, said second coefficient comprises ~~the~~ a smallest integer selected such that the result of said third calculation exceeds a predetermined number of pixels, and said third coefficient equals 1.

14. (original) The method of claim 13 wherein the predetermined number of pixels is at least 100.

15. (original) The method of claim 14 wherein the predetermined number of pixels is 128.

16. (original) A method for generating a descreened contone proof image; said descreened contone proof image accurately reflecting the layout of a halftone image converted from an original contone image using a high- or medium-density periodic screen, the method comprising:

(a) receiving at a print drive from at least one raster image processor the raster data of said halftone image processed by the at least one raster image processor, the print drive comprising a job control system for receiving, storing, digitally combining, and initiating output of raster data, and a user interface for directing operation of the job control system by a system operator;

(b) determining an optimal screen-based sample dimension suitable for descreening and rescaling said raster data of said halftone image comprising the steps of:

obtaining parameters of said periodic screen, said parameters comprising a cell dimension, and a screen angle; and modifying said cell dimension in response to said screen angle thereby calculating an optimal screen-based sample dimension;

(c) descreening and rescaling said raster data using said optimal screen-based sample dimension to obtain a descreened proof raster data set of said halftone image; and

(d) imaging said descreened proof raster data set on a proofer.

17. (original) The method of claim 16 wherein the step of imaging said descreened proof raster data set on a proofer comprises the steps of

(a) wrapping said descreened proof raster data set in a page description language wrapper; and

(b) transmitting said descreened proof raster data set wrapped in a page description language wrapper to said proofer.

18. (original) A method for generating a descreened contone proof image; said descreened contone proof image accurately reflecting the layout of a halftone image converted from an original contone image using a low-density periodic screen, the method comprising:

(a) processing said halftone image by the at least one raster image processor to create a plurality of raster data sets representing sets of objects contained in said halftone image;

(b) receiving at a print drive from at least one raster image processor the first raster data of a first set of objects of said halftone image, the print drive comprising a job control system for receiving, storing, digitally combining, and initiating output of raster data, and a user interface for directing operation of the job control system by a system operator;

(c) receiving the second raster data of a second set of objects of said halftone image,

(d) facilitating selection of said first raster data and said second raster data via said user interface;

(e) determining an optimal screen-based sample dimension suitable for descreening and rescaling of said first raster data comprising the steps of:

(i) obtaining parameters of said periodic screen, said parameters comprising a cell dimension and a screen angle; and

(ii) modifying said cell dimension in response to said screen angle,

thereby calculating said optimal screen-based sample dimension;

(f) determining an optimal resolution-based sample dimension suitable for descreening and rescaling of said second raster data;

(g) descreening and rescaling said first raster data using said optimal screen-based sample dimension to form a first descreened proof raster data of said first set of objects;

(h) descreening and rescaling said second raster data using said optimal resolution-based sample dimension to form a second descreened proof raster data of said second set of objects;

(i) digitally combining by said print drive, in response to direction received via said user interface, said first descreened proof raster data and said second descreened proof raster data to form combined proof raster data set representing a resultant proof image; and

(j) imaging said combined proof raster data set on a proofer.

19. (original) The method of claim 18 wherein the step of imaging said combined proof raster data set on the proofer comprises the steps of

wrapping said combined proof raster data set in a page description language wrapper; and

transmitting said combined proof raster data set wrapped in the page description language wrapper to the proofer.

20. (original) The method of claim 18 wherein the step of determining an optimal resolution-based sample dimension suitable for descreening and rescaling said second raster data of said second set of objects comprises:

(a) obtaining the resolution value of said halftone image;

(b) providing the resolution value of said descreened contone proof image; and

(c) rounding the resultant ratio of the resolution value of said halftone image to the resolution value of said descreened contone proof image to the nearest integer.

21. (original) The method of claim 18 wherein said first set of objects represents at least one variable-color object of said original contone image.

22. (original) The method of claim 18 wherein said second set of objects represents at least one solid-color object of said original contone image.

23. (original) A prepress system for generating a descreened contone proof image; said descreened contone proof image accurately reflecting the layout of a halftone image converted from an original contone image using a periodic screen, said prepress system comprising:

(a) a front end comprising an imaging application for creating a contone image having one or more separations and for forming a description of the contone image in a page description language;

(b) at least one raster image processor for processing the description of said contone image in the page description language thereby converting said contone image into said halftone image by creating raster data sets for each color separation associated with said halftone image;

(c) a print drive for controlling operations in said prepress system, the print drive comprising:

(i) a print drive input terminal receiving, from said at least one raster image processor, said raster data for each color separation associated with said halftone image;

(ii) a job control system for receiving, storing, digitally combining, and initiating output of raster data,

(iii) a user interface for directing operation of the job control system by a system operator;

(iv) a preproofer for determining an optimal sample dimension for at least one of said raster data sets and for descreening, rescaling, resizing, and combining said at least one of said raster data sets using said optimal sample dimension to create a proofer raster data set, said proofer raster data set including the descreened, rescaled, resized, and combined at least one of said raster data sets; and

(d) a proofer for imaging said proofer raster data set.

24. (canceled)

25. (canceled)